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Note by the Co-Chairmen of the Ad Hoc Intergovernmental Panel on Forests

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ACRONYMS

CIFOR	Center for International Forestry Research
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
ECE	Economic Commission for Europe
EIA	Environmental impact assessment
FAO	Food and Agriculture Organization of the United Nations
FMU	Forest management unit
FRA	Forest Resources Assessment
GEF	Global Environment Facility
IBFRA	International Boreal Forest Research Association
ICRAF	International Centre for Research in Agroforestry
IPF	Ad Hoc Intergovernmental Panel on Forests
ITFF	Interagency Task Force on Forests
ITTO	International Tropical Timber Organization
IUFRO	International Union of Forest Research Organizations
MBI	Market-based instruments
NFPs	National forest programmes
NGO	Non-governmental organization
ODA	Official development assistance
TBT	Technical barriers to trade
TFRK	Traditional forest-related knowledge
UNCED	United Nations Conference on Environment and Development
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

UNESCO	United Nations Educational, Scientific and Cultural Organization
WCMC	World Conservation Monitoring Centre
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

INTRODUCTION

In accordance with paragraph 3 (c) of the report of the Ad Hoc Intergovernmental Panel on Forests on its third session (E/CN.17/IPF/1997/2), the present note has been prepared by the Co-Chairmen, in consultation with other members of the Bureau, to facilitate the negotiations of the Panel at its fourth session.

I. IMPLEMENTATION OF FOREST-RELATED DECISIONS OF THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT AT THE NATIONAL AND INTERNATIONAL LEVELS, INCLUDING AN EXAMINATION OF SECTORAL AND CROSS-SECTORAL LINKAGES

Progress through national forest and land-use programmes

Conclusions

1. The Panel recognized that the term "national forest programmes" (NFPs) was used as a generic expression for a wide range of approaches to the management, conservation and sustainable development of all types of forests within different countries, and noted that the conservation of biological diversity and the protection of soil, water and fragile ecosystems were important goals of such programmes. It recognized the significance of the concept in many countries, while accepting that other policy frameworks are appropriate elsewhere. It emphasized that NFPs or other comparable policy frameworks demand a broad intersectoral approach at all stages, including the formulation of policies, strategies and plans of action, as well as their implementation, monitoring and evaluation. The programmes should be implemented in the context of each country's socio-economic, cultural, political and environmental situation, and be integrated into wider programmes for sustainable land use in accordance with chapters 10 to 15 of Agenda 21. The activities of other sectors, such as agriculture, energy and industrial development, should be taken into account.

2. The Panel emphasized a number of specific elements needing consideration when developing and implementing NFPs or other policy frameworks, notably the need for appropriate participatory mechanisms to involve all interested parties; decentralization where applicable and empowerment of regional and local government structures; recognition and respect for customary and traditional rights of special groups such as indigenous peoples, local communities and other forest dwellers, forest owners and workers; secure land tenure arrangements; and the establishment of effective coordination mechanisms and conflict-resolution schemes.

3. Regardless of the approach adopted by individual countries, NFPs or other relevant policy frameworks, as long-term iterative processes, should recognize the following as key elements: national sovereignty and country leadership; consistency with national policies and international commitments; integration with the country's sustainable development strategies; partnership and participation; and holistic and intersectoral approaches. The Panel

acknowledged the usefulness of testing and demonstrating the concept of NFPs on an operational scale.

4. The Panel recognized the need for NFPs to be based on a sound economic valuation of forest resources, including environmental services and non-timber products. It noted that NFPs can provide an effective link between strategic and operational planning. They should be specifically designed to increase effectiveness and efficiency at the country level, with a view to attracting increased domestic and external resources.

5. The Panel recognized the importance of new and innovative sources of funding for sustainable forest management, including the development and implementation of NFPs, but stressed that public funds in many countries, particularly in developing countries with low forest cover, will continue to be the most important source of finance.

6. The Panel also recognized the need for an external economic and commercial environment which is supportive of NFPs. Their implementation will be affected by market forces, including international trade. They need to be supported by a market context that enhances the economic values of forest resources and a price mechanism that ensures an adequate and remunerative return for the sustainable use of forest resources.

7. The Panel stressed that funding, and particularly the provision of external resources, including private foreign investment and ODA, is greatly facilitated by clear recipient government commitment to the implementation of national policies and programmes that promote sustainable forest management in the forest and related sectors. More efficient investment policies are needed for the successful implementation of NFPs.

8. Because of the intersectoral nature of NFPs, the Panel stressed the need for national authorities to look into the institutional capacity of forest-related sectors to ensure the successful implementation of such programmes. It emphasized the importance of assessing and, where necessary, enhancing national capabilities at all levels to develop, implement, monitor and evaluate the management, conservation and sustainable development of all types of forests.

9. The Panel acknowledged that coordination among all interested parties at the national and international levels is crucial for the management, conservation, and sustainable development of all types of forests. The Panel noted and welcomed further input from the Conference of the Parties to the Convention on Biological Diversity with respect to biological diversity and forests.

10. Finally, the Panel noted the importance of improving regional and international cooperation for the exchange of information, technology and know-how through the establishment of appropriate networks, in support of national programmes for sustainable forest management.

Proposals for action

11. The Panel:

(a) Urged countries to develop, implement and monitor NFPs, or other appropriate policy frameworks, within wider intersectoral policies and land-use plans, as an effective means of promoting the management, conservation and sustainable development of all types of forests at national and local levels, thus increasing their capacity to meet the increasingly high and conflicting demands for forest goods and services;

(b) Called for improved cooperation in support of forest management, conservation and sustainable development of forests around the world and urged all countries to use NFPs, or comparable policy frameworks, as the basis for international cooperation in the forest sector;

(c) Stressed the need for international cooperation in the provision of new and additional financial resources, including ODA, for the effective implementation of national policies and programmes in the forest and related sectors;

(d) Urged countries to integrate criteria and indicators for sustainable forest management as appropriate into the overall process of the formulation, implementation and monitoring of NFPs or other relevant policy frameworks;

(e) Urged countries to develop planning systems that identify and involve a broad representation of indigenous peoples, forest dwellers and local communities in meaningful decision-making regarding protection and management goals and operations affecting state forest lands in their proximity. Community forest management systems should be an integral part of national forest programmes. International agreements and donor programmes should reflect the importance of integrating communities into the planning process;

(f) Urged Governments, particularly in developing countries and countries with economies in transition, to include capacity building as an objective of NFPs, paying particular attention to training, extension services and technology transfer and taking into account local, traditional forest related knowledge;

(g) Encouraged national authorities to consider the need to enhance capacities in all relevant sectors, including the public and private sectors, indigenous peoples, local communities and non-governmental organizations, taking into account the role played by each of the interested parties in the management, conservation and sustainable development of all types of forests, in order to achieve a country-led design and implementation of NFPs;

(h) Encouraged governments to establish sound national coordination mechanisms among all interested parties, based on consensus building principles, to ensure the smooth implementation of NFPs;

(i) Called for the further development of the concept of forest partnership agreements, in the context of NFPs, as a potential instrument for

improved coordination and cooperation between all national and international partners.

Underlying causes of deforestation and forest degradation

Conclusions

12. The Panel noted the critical need to understand the underlying causes of deforestation and forest degradation, which are often country-specific. A focused approach that concentrates on reversing the most damaging processes and promoting the most effective and beneficial measures is needed. It is also important to recognize local initiatives which can counter current trends in deforestation and forest degradation, especially among indigenous and local communities.

13. Sustainable economic development can play a key role in reducing pressure on forests and replacing the processes leading to deforestation and forest degradation. Each country, whether developing or developed, will have its own particular set of circumstances and opportunities for action. It is important to consider historical dimensions and to learn from experience. Many of the factors causing deforestation or forest degradation interact and some are synergistic. Most causes are social and economic in character. Although some courses of action, such as unsustainable timber extraction, are linked to the forest sector itself, inappropriate policy choices and approaches in other sectors can also influence deforestation and forest degradation.

14. Poverty, production and consumption patterns, land tenure patterns, land speculation and land markets have a major influence on access to, and use of, forest products goods and services and on deforestation. Illegal logging, land occupation and crops, as well as grazing pressures, unsustainable agriculture, and the demand for fuelwood and charcoal to meet basic energy needs, in addition to refugee-related problems, as well as natural climatic events and forest fires, are among other important factors in many regions.

15. The assessment of whether changes in forest cover are or are not beneficial can only be done against a background represented by national policy frameworks for sustainable land-use and for the management, conservation and sustainable development of all types of forests that encompass and harmonize elements pertaining to social and economic development programmes, environment plans, land-use plans, and national biodiversity strategies and action plans. All these national instruments, jointly and consistently, should enable countries to secure the quantity and quality of forest required to provide the full range of benefits, goods and services needed now and in the future. The increasing pressure from demands for wood and other forest goods and services, as well as for land for other uses, suggests a priority need to strengthen intersectoral decision-making affecting land use. Increasingly effective institutions for resource management, land use, research, education, and extension will be an important part of sustainable forest management.

16. There are rational justifications for many changes in forest structure and cover. Different countries have different requirements, and these requirements

alter over time and affect both the area and the nature of their forests. Both sustainably managed natural forests and forest plantations, as components of integrated land-use management that takes account of environmental and socio-economic concerns, fulfil a valuable role in meeting the need for forest products, goods and services as well as helping to conserve biological diversity and providing a reservoir for carbon. The benefits and disbenefits of different types of forest management, including forest plantations, need to be appraised under different social, cultural, economic and ecological conditions. The role of forest plantations as an important element of sustainable forest management schemes, particularly by taking pressure off natural forests, should be recognized, enhanced and promoted.

17. The Panel recognized the importance of long-term changes in consumption and production patterns in different parts of the world and their positive and negative effects on the sustainable management and use of forests. The long-term outlook is for steadily rising demand for wood and for the services of forests, and a declining area of forest for their production. The implications should be reviewed in the context of the work being done by the Commission on Sustainable Development and other relevant initiatives concerned with the long-term supply of and demand for forest products, goods and services.

18. Among the various international underlying causes of deforestation and forest degradation, international trade and investment, as well as long-range transboundary air pollution, are important. Factors such as discriminatory international trade practices, structural adjustment programmes and external debt could indirectly influence deforestation. Market forces and relative prices, including those of agricultural commodities, as well as under-valuation of wood and non-wood forest products, have a direct bearing on the management, conservation and sustainable development of all types of forests.

19. In many countries there is a need for further analysis of the sequence of causes contributing to changes in the quantity and quality of forests, focusing attention on the action that might be most effective in halting damage and promoting beneficial change. This analysis would be facilitated by the use of a comprehensive diagnostic framework, elements of which have been elaborated in the Secretary-General's reports provided to the Panel. This diagnostic framework not only would serve as a useful tool in both developing and developed countries to analyze deforestation and forest degradation but also, in adapted forms, could be invaluable in setting the objectives of national forest policies, in introducing a historical perspective into the analysis of the causes, in exploring the effects of policies in other sectors on deforestation and forest degradation, for the use and refinement of criteria and indicators and methods of valuation, in relation to national action plans for other international agreements and conventions, and generally as a powerful management tool in furthering the implementation of the management, conservation and sustainable development of all types of forests.

20. The diagnostic framework should be employed in a constructive, corrective and forward-looking manner. It would complement and strengthen other existing planning exercises and should also be used, together with criteria and indicators (see chap. III), as a tool for the periodic assessment of progress. As a management tool, it should be developed voluntarily and not used as a basis

for conditionality in ODA. The development of the framework must not, however, delay action, and it may not be needed in countries where major direct or indirect causes have been identified, well understood and documented or where deforestation is not viewed as a problem at the national level.

Proposals for action

21. The Panel urged countries:

(a) With the support of international organizations and the participation of major groups where relevant, to prepare in-depth studies of the underlying causes at the national and international levels of deforestation and forest degradation, including the implications of current national and international consumption and production patterns for forests and forest goods and services, both with market and non-market values, in developing and developed countries. Such studies should pay particular attention to terms of trade, discriminatory trade practices and unsustainable policies related to sectors such as agriculture and energy, and place special emphasis on their positive and negative effects on the sustainable management and use of forests. They should also analyse comprehensively the historical perspective of the causes of deforestation and forest degradation in the world, and other international underlying causes of deforestation and forest degradation, including transboundary economic forces, as well as provide new factual information on the significance of transboundary pollution;

(b) To consider actions to ensure the sustainability of wood supply and demand, with a special emphasis on investment in sustainable forest management and the strengthening of institutions for forest resource management;

(c) To convene and finance as soon as possible a global workshop on international underlying causes of deforestation and forest degradation.

22. The Panel also urged donor countries and international organizations, including regional development banks, to assist and finance research, technology transfer, case-studies and capacity-building activities in developing countries to allow an integrated approach towards:

(a) The strategic analysis of policies that have contributed to forest degradation and deforestation as well as of those that have had a positive effect;

(b) The formulation and implementation of national strategies, through an open and participatory process, for addressing the underlying causes of deforestation and defining policy goals for national forest cover, as inputs to the implementation of the national forest programmes or other relevant policy frameworks;

(c) The development of mechanisms, including environmental impact assessment (EIA), through an open and participatory process, to improve policy formulation and coordination, as well as the planning, management and implementation of relevant national programmes for achieving the management, conservation, and sustainable development of all types of forests;

(d) The formulation of a policy of securing land tenure for local communities and indigenous peoples and of mechanisms aimed at the equitable sharing of the benefits of the forests.

23. The Panel also:

(a) Recommended the provision of timely, reliable and accurate information on the underlying causes of deforestation and forest degradation, as well as on the multiple roles of forests, as an essential foundation for public understanding and informed decision-making;

(b) Requested donor countries and international organizations to assist developing countries in financing research, technology transfer, case-studies and capacity-building activities to allow an integrated approach towards the formulation and application of national policy frameworks and in conducting strategic analyses of relevant political, legal and institutional policies that have contributed to forest degradation and deforestation as well as of those that have had a positive effect;

(c) Encouraged developed countries and multilateral and international organizations, including regional development banks, to assist developing countries and countries with economies in transition to undertake case studies using the "diagnostic framework" described above in order to:

(i) Develop and test its usefulness as an analytical tool in assessing options for utilization of forest and forest lands;

(ii) Refine it, disseminate the results and apply it more widely.

Traditional forest-related knowledge

Conclusions

24. Traditional forest-related knowledge (TFRK) constitutes an important body of knowledge and experience relevant to many aspects of the Panel's mandate. TFRK should be broadly defined to include not only knowledge of forest resources themselves but also institutional, authority and governance structures, cultural belief and value systems, customary law, indigenous legal systems and traditions and property rights, land and resource use systems and conflict resolution and mediation processes, all of which are an integral part of sustainable forest management.

25. The Panel noted with concern that communities with sustainable lifestyles based on TFRK have been undermined and destroyed by accelerated loss of forests resulting from the introduction of new technologies and economic pressures, in the absence of adequate measures for conservation and sustainable management. It agreed that indigenous people, forest dwellers, forest owners and local communities should play a key role in developing participatory approaches to forest and land management. Such approaches should involve all relevant parties from both public and private sectors, and focus on community forest management,

land-use systems, research, training and extension, the formulation of criteria and indicators, and conflict resolution.

26. TFRK can provide a strong basis for sustainable forest management, and its potential to support actions should be reflected in national forest programmes. The Panel, however, recognized that the international and national communities are still in an early stage of identifying ways and means for the effective protection and use of TFRK and of exploring the relationships between TFRK and sustainable forest management. This complex cross cutting relationship involves natural and social sciences, culture, tradition and the environment.

27. The effective protection of TFRK requires the fair and equitable sharing of benefits among all interested parties including indigenous populations, forest dwellers, forest owners and local communities. Certain conditions will need to be met in national legislation if indigenous people, other local communities and forest dwellers are to participate fully in partnership agreements and to offer their TFRK for the benefit of other interested parties. Holders of TFRK will need to be represented by their own representatives; to feel secure in their land tenure arrangements; to be reassured that they have been accorded status equal to that of the other members of the partnerships; and to be convinced of a common purpose compatible with their cultural and ecological values.

28. TFRK is useful in locating valuable new products, and accessing these on fair and equitable terms can only benefit each country in its efforts to achieve sustainable development. Governments and others who wish to use TFRK should acknowledge, however, that it cannot be taken from people, especially indigenous peoples, forest dwellers and local communities, without their informed consent. Ways and means to ensure effective protection of indigenous rights [and payment of royalty on intellectual property rights] should be identified in the context of national and international legislation, customary law and indigenous legal systems. International cooperation on TFRK and rights related to it must be consistent with obligations under the Convention on Biological Diversity, and other relevant instruments.

29. The Panel noted the need to establish international mechanisms for the exchange of national experiences and mechanisms, including financial investment, to stimulate the application of TFRK in sustainable forest management and the development of products derived from it. These matters are considered in chapter II.

30. There are difficulties surrounding the acquisition, storage, retrieval and dissemination of TFRK outside its place of origin. These arise from a lack of effective measures to protect and manage TFRK, and from the nature of TFRK, which is largely site- and culture-specific and not amenable to being digitized, stored in databases or accessed through clearing-house mechanisms. The Panel recommended further exploration of the feasibility and modalities of exchanges in this area.

31. The Panel recognized that the Convention on Biological Diversity contains several provisions, including articles 8 (j) and 10 (c), relevant to TFRK which is a subset of the knowledge, innovations and practices referred to in article 8 (j) of the Convention while the genetic resources of forest ecosystems

are a subset of the genetic resources referred to in article 15. It noted the statement annexed to decision II/9 of the Conference of the Parties to that Convention and accepted that the conservation and sustainable use of biodiversity, and the fair and equitable sharing of benefits from the commercial utilization of biological resources fell, inter alia, within the purview of the Convention. It also recognized the need to avoid duplication or overlap with other relevant intergovernmental processes. These matters are considered further in chapter V.

Proposals for action

32. The Panel:

(a) Invited countries to identify traditional knowledge, innovations and practices that are relevant for the conservation and sustainable use of biological diversity;

(b) Invited countries to explore further at the national and international levels different options for policy, institutional and legal frameworks required to support the application of intellectual property rights and protection regimes to TFRK, the equitable sharing of its benefits, and the possible development of formal agreements by which TFRK can be accessed;

(c) Urged countries, in implementing their forest programmes, to take measures to protect TFRK taking account of the outcome of the third meeting of the Conference of the Parties to the Convention on Biological Diversity, held in Buenos Aires from 4 to 15 November 1996;

(d) Urged countries in the context of their national legal systems to promote and provide opportunities for the participation of indigenous people, forest dwellers, forest owners and local communities in the planning, development and implementation of national forest policies and programmes consistent with principles 2(d) and 5(a) of the Forest Principles;

(e) Urged Governments, with the support of international organizations, to work with all interested parties in the preparation of technical guidelines on TFRK application, bringing together knowledge and experience of the approaches that work in practice;

(f) Urged Governments, with the assistance of international organizations where appropriate, to support national, regional and international efforts that will enhance the capacity of indigenous people, forest dwellers and local communities to participate in partnership agreements that apply TFRK for sustainable forest management, and to promote partnerships among all interested parties;

(g) Encouraged Governments to recognize and support traditional resources use systems incorporating TFRK through the development of new instruments and mechanisms that enhance the security of forest-dependent groups;

(h) Urged Governments to work with communities and build on their knowledge to establish stronger linkages between traditional and emerging national sustainable forest management systems;

(i) Encouraged countries to identify ways to inventory, store, catalogue and retrieve TFRK and to support its effective protection and application, including developing local capacity, and to examine opportunities to apply TFRK relating to the management of particular types of forests to other similar forest ecosystems;

(j) Urged Governments and international organizations to support research on TFRK in regional and national institutions, with the full involvement of the holders of that knowledge, to maintain or enhance the capacity of such institutions, and to promote the wide understanding and use of the knowledge gained;

(k) Urged Governments, national institutions and academic centres to incorporate TFRK in forest management training as a way to sensitize forest managers to the importance of respect for and protection of TFRK when accessing it; to the need to observe the principle of fair and equitable sharing of benefits; and to the advantages of using it and the disadvantages of ignoring it. They should also emphasize the importance of recognizing TFRK in developing national criteria and indicators (chap. III) within the context of national forest programmes (chap. I), and sustainable forest management and in defining certification schemes (chap. IV);

(l) Encouraged Governments with the support of donors and international organizations to assist financially and otherwise existing networks promoting the sharing of TFRK on mutually agreed terms, as well as of technology and profits arising from the use of such knowledge among concerned groups and institutions in collaboration with involved forest dwellers, indigenous people and local communities;

(m) Urged Governments to promote digital mapping (using geographic information systems and geographic position systems) combined with social mapping for establishing forest holdings, assisting planning and management partnerships; and assisting in the location and storage of cultural and geographical information required to support the management, protection and use of TFRK;

(n) Invited WIPO together with UNCTAD to undertake a study aimed at advancing international understanding on the relationship between intellectual property and TFRK, and to propose possible ways and means to ensure effective protection of TFRK and the equitable sharing of benefits arising from such knowledge;

(o) Requested the Secretariat to produce a compilation of international instruments and national legislation, including draft legislation, pertaining to the protection and use of TFRK, and the equitable sharing of benefits arising from such knowledge, and encouraged countries to exchange information on national experiences in this field.

Fragile ecosystems affected by desertification and drought

33. Desertification and the effects of drought are widespread phenomena, affecting forests and other wooded land in arid, semi-arid and dry sub-humid regions. These problems are of global dimensions in that they affect most regions of the world and require collective action by the international community.

34. Forest-related action aimed at combating desertification and mitigating the effects of drought should address the causes of these phenomena in an integrated manner, and consider the role of poverty along with land use policies, food security, the provision of fodder and fuelwood, the effects of non-sustainable production and consumption patterns, the impact of trade and trade relations, migration, refugees and many other economic, social and cultural factors. The Panel noted that forest fires continue to have a devastating impact on some forest ecosystems, in particular in countries south of the Sahara and in countries with dry forests in Mediterranean zones, although in other areas they may have positive effects on the vitality and renewal of forest ecosystems.

35. The Panel noted that in some countries forest cover had been or was expanding as a result of popular movements backed by Government support. In many areas, plantations of fast-growing trees have had good and cost-effective results in terms of soil protection. While recognizing that forest land rehabilitation would be required in many areas, and that this would need international assistance, including financial resources and technology transfer to support local and national efforts, the Panel emphasized the need for prevention, rather than mitigation and restoration, wherever practicable, with emphasis on improved and sustainable management of existing natural forest and other vegetation. The restoration of arid, semi-arid and dry sub-humid zones should not focus narrowly on afforestation, but also deal with broader aspects of forest ecosystem management, including social and economic issues. The Panel identified the need to strengthen research, including support to regional research networks, related to the identification of appropriate species for arid, semi-arid and dry sub-humid land restoration, the rehabilitation of existing vegetation types, and the potential of non-timber forest products. Education, training and extension systems can play an important role.

36. The Panel emphasized the need for an integrated approach to national forest and land-use programmes and national plans to combat desertification. It urged countries to promote coordinated, cross-sectoral action at the political and policy-making level to improve legislation and to accelerate implementation within the context of national sustainable development strategies. Recognizing the merits of bottom-up approaches involving all major groups concerned with the issues, along with top-down approaches, the Panel emphasized the need for national action programmes to draw more extensively on local and traditional knowledge and evaluate traditional agro-sylvo-pastoral systems in accordance with the principles outlined in programme element I.3. Close collaboration was needed between forest and agricultural institutions, and support should be provided to farmers and herders. Protected areas need to be established and supported where appropriate in fragile and endangered ecosystems affected by drought and desertification, as part of in-situ conservation strategies. The approaches should be supported by an enabling legislative and institutional

framework which secures rights and access to land. Countries in regions affected by desertification and the effects of drought should propose initiatives and priorities for action, working in accordance with article 5 of the Convention to Combat Desertification in those countries experiencing serious drought and/or desertification, particularly in Africa.

37. The Panel considered that this whole programme element must be carried forward in close relationship with existing international Conventions, and especially the Convention on Biological Diversity, the United Nations Framework Convention on Climate Change and, in particular, the Convention to Combat Desertification. It emphasized the need for donors, international agencies and recipient countries to engage in adequate consultations in order to develop efficient and coordinated programmes of international cooperation that are consistent with these Conventions, the Forest Principles and Agenda 21. The work carried out under these Conventions and the work of the Panel should complement and enhance one another.

Proposals for action

38. The Panel:

(a) Urged countries and international organizations to undertake national and international action to address the complex issues related to dry-land forest ecosystems in countries affected by desertification and drought, inter alia, by considering such systems in national forest programmes and other forest policies and by coordinating action, where appropriate, at the regional level;

(b) Called on countries to continue to analyse past experiences and to monitor trends in forests and related ecosystems affected by desertification and drought, including biophysical, ecological, economic, social, land tenure and institutional factors;

(c) Urged countries to establish protected areas to safeguard forest and related ecosystems, their water supplies and historical and traditional uses in appropriate localities in arid and semi-arid regions;

(d) Called on countries, donors and international organizations to support education, training and participatory research involving indigenous peoples, forest dwellers and local communities in order to develop resource management approaches that will reduce the pressure on forests in fragile ecosystems affected by desertification and drought;

(e) Urged countries and international organizations to strengthen and further develop partnerships and collaboration between local communities, governments, non-governmental organizations and other major groups in order to enhance action on forest-related aspects of desertification and drought;

(f) Urged donors, international agencies and recipient Governments to develop efficient and coordinated programmes of international cooperation and action on forests and related ecosystems affected by desertification and

drought, within the context of the Convention to Combat Desertification and the broader mandate of the Panel, the Forest Principles and Agenda 21;

(g) Invited the Committee on Science and Technology of the Conference of the Parties to the Convention to Combat Desertification to support research on appropriate tree species for use in arid, semi-arid and dry sub-humid land restoration, on rehabilitation of existing vegetation and on the potential for supplying non-timber forest products.

Impact of air pollution on forests

39. The Panel noted that air pollution is affecting forest health in many parts of the world in addition to Europe. A preventative approach is needed, taking account of economic factors including production and consumption patterns. The Panel emphasized the importance of the Convention on Long-Range Transboundary Air Pollution and welcomed the widespread and general application of the critical loads approach adopted under that Convention. It commended the approach for consideration by those countries whose forests are, or may be, affected by air pollution. The potential impact on forest health from inputs of nutrients and airborne pollutants, acting in combination with other processes such as natural weathering and leaching, should be taken into account in forest planning and management.

40. The Panel emphasized the need to continue monitoring and evaluating the impact of air pollution on forest health wherever it has been demonstrated in the world, and for information on how the countries concerned have addressed such problems. A synthesis of knowledge of the impact of airborne pollution on forests, particularly in Central and Eastern Europe, and an assessment of ongoing remedial activities and proposals for possible future action should be prepared and evaluated. The Panel also stressed the need for continuing action to reduce air pollution, including the transfer and supply of the best available as well as future technologies. The problem has to be solved by action outside the forests.

41. The Panel stressed the need for international cooperation including: information exchange; research and field data collection; evaluation of the socioeconomic and environmental impact of air-borne pollution on forests; studies of ecosystem function where pollutant deposition threatens sustainability; the development of methods for assessing and monitoring national level criteria and indicators that relate air-borne pollution to sustainable forest management; the dissemination of information to the public; the provision of access to existing data by potential users including managers and policy makers; and technical assistance in order to help build capacity for research.

Proposals for action

42. The Panel:

(a) Encouraged countries to adopt a preventative approach to the reduction of damaging air pollution, including long-range transboundary air pollution, in national strategies for sustainable development;

(b) Encouraged countries to cooperate in activities related to the impact of air pollution on forest health, including the provision of access to existing data by potential users including managers and policy makers, and technical assistance in order to help build capacity for research and the dissemination of information to the public;

(c) Recommended that existing regional programmes monitoring the impact of air-borne pollution on forest health in affected countries should continue and be extended to other regions where necessary;

(d) Encouraged the development of methods for the assessment and monitoring of national level criteria and indicators for air-borne pollutants in the context of sustainable forest management;

(e) Urged countries outside the ECE region to enter into binding agreements as appropriate on the reduction of long-range transboundary air pollution.

Needs and requirements of countries with low forest cover

43. Many of the issues arising under this heading also arise elsewhere in this chapter and in chapter III. The Panel emphasized that actions in this section need to be coordinated with actions, inter alia, under the Convention on Biological Diversity, the United Nations Framework Convention on Climate Change, and the Convention to Combat Desertification and Drought.

44. The Panel recognized that there are both developed and developing countries with low forest cover. Low forest cover can arise as a result of natural ecological conditions as well as of human activities, and the situation is constantly changing. Some countries are actively expanding their forest cover, while others are approaching qualification for entry into the low forest cover category.

45. The Panel felt that there was a need for more precise identification of countries categorized as countries with low forest cover. The definition of forest used by the Panel following the FAO global Forest Resource Assessment, is that it includes vegetation with 20 per cent and 10 per cent minimum tree crown cover for developed and developing countries respectively. This does not have a strong scientific foundation, nor does it allow for comparability of data on a world-wide basis. Furthermore, there is no consistent way of classifying countries by the extent of forest, however defined, into those with low and those with high forest cover.

46. In some countries, economic development has been historically associated with the significant loss of forests, leading to disturbing consequences today in terms of land degradation and social, cultural and economic hardship. The restricted area of forests in countries with low forest cover results in reduced capacity for the production of timber and for the provision of goods and services, including the protection of watersheds, the supply of fuelwood, the maintenance of biological diversity and endemic species and recreation and amenity. Moreover, many of the forest types in these countries are distinctive

or even rare, and require national as well as international protective measures, while the proportion included in nationally designated protected areas is often below average.

47. The Panel recognized the seriousness of problems faced by both developing and developed countries with low forest cover in satisfying their needs for forest goods and services. It also recognized that, owing to economic factors and circumstances, the impact of the problem in developing countries is much more severe than in developed countries. The needs of low and middle income countries with low forest cover are likely to differ from those of high income countries, and consequently, different sets of actions to address these needs will apply.

48. The Panel noted that NFPs or other participatory and cross-sectoral national forest plans and strategies, may provide a good vehicle for addressing some at least of the needs and requirements of countries with low forest cover. They can provide a framework for analysing and considering alternative ways of satisfying diverse demands for forest goods and services within and outside the forest sector. While additional information may be necessary as a basis for NFPs in countries with low forest cover, this should not prevent the preparation of interim plans based on information already available.

49. The Panel emphasized the importance of international cooperation to address the management, conservation and sustainable development of forests in low-income countries with low forest cover, particularly through financial assistance and the transfer of technology as well as through the establishment of appropriate research and information networks. In this connection, the Panel noted that the increasing focus of private investments in countries with abundant forest resources has made forest ecosystems in developing countries with low forest cover particularly vulnerable. In these countries official development assistance is and will continue to be the most important source of funding. National forest programmes should be considered the main vehicle to channel and secure the effectiveness of the required financial and technical assistance.

Proposals for action

50. The Panel:

(a) Called upon FAO, in consultation with relevant organizations and countries, as appropriate, to develop a precise definition of low forest cover, applicable to all countries, and suitable for use in the Forest Resources Assessment (FRA), 2000;

(b) Urged countries with low forest cover

(i) To seek long-term security of forest goods and services through the development of national forest programmes for the sustainable management of all types of forests, in accordance with the guiding principles set out in the first section of this chapter, defining as far as possible in those programmes their national requirements for a

permanent forest estate (PFE), in those countries that may have a need to define a PFE as a policy goal;

(ii) If intending to enlarge their forest estate by plantations, to plan and manage these to enhance production and provision of goods and services, while paying due attention to all relevant social, cultural, economic and environmental considerations in the selection of species, areas and silviculture systems, preferring native species where practicable, and taking special care to avoid replacing natural ecosystems of high ecological and cultural values with forest plantations, particularly monocultures;

(iii) To promote the natural regeneration of degraded forest areas by involving communities and indigenous people in their protection and management;

(iv) When considering non-wood substitutes or imports of forest products, to fully analyse and take into account the related social, economic and environmental implications and costs of such measures;

(v) To establish or expand networks of protected areas, buffer zones and ecological corridors in order to conserve biodiversity, particularly in unique types of forests, working in close liaison with the Convention on Biological Diversity;

(vi) Particularly developing countries and countries with economies in transition, to embark on capacity-building programmes based on institutions at all levels to ensure efficiency and effective participation in decision making throughout the planning and implementation processes, and taking full advantage of the wealth of traditional knowledge available in the country;

(vii) To develop adequate research and information systems, based on reliable evaluations and periodic assessments, including the use of national level criteria and indicators, and establishing sectoral and cross-sectoral mechanisms for information exchange, in order to allow for timely decisions related to national forest policies and programmes;

(c) Urged developed countries endowed with suitable land and climate conditions to take a firm lead in efforts towards the greening of the world in accordance with principle 8 (a) of the Forest Principles, while urging developed countries with low forest cover, but with limited land and unsuitable climatic conditions, to assist developing countries through adequate and appropriate transfer of technology and financial resources;

(d) Urged Governments and international organizations to develop efficient procedures for international cooperation to support the management, conservation and sustainable development of forests in countries with low forest cover, especially developing countries and countries with economies in transition, particularly through the exchange of experience and information, financial assistance and the transfer of technology;

(e) Urged donor countries and multilateral and international organizations to assist developing countries in data gathering and analysis so as to monitor their forest resources;

(f) Urged Governments in need of development assistance and donor organizations to develop further and to test the concept of forest partnership agreements as a means to secure long-term commitments at national and international levels.

II. INTERNATIONAL COOPERATION ON FINANCIAL ASSISTANCE AND TECHNOLOGY TRANSFER

Financial assistance

Conclusions

51. The Panel emphasized that the issues of financial assistance and transfer of technology are cross-cutting, interlinked and essential for the management, conservation and sustainable development of all types of forests, particularly in developing countries and countries with economies in transition. The Panel reiterated that these cross-cutting issues are critical to progress in all the other programme elements within its terms of reference.

52. In proposing measures to address these issues, the Panel emphasized the need to take into account the Forest Principles and relevant chapters of Agenda 21. The Panel recognized that existing resources are insufficient to achieve the management, conservation and sustainable development of all types of forests and that the gaps will need to be clarified.

53. The Panel recognized that in developing countries, domestic resources for financing the management, conservation and sustainable development of all types of forest are scarce and international financial sources remain vital. It reiterated the need for the provision of new and additional financial resources and emphasized the need to mobilize new, innovative and additional forms of finance at public, private, international, domestic and local levels. However, while recognizing the important potential in innovative financial packages and new types of public-private partnerships, the Panel emphasized the continuing importance of international public finance and of existing commitments to it and the need to ensure the predictability and continuity of flow of financial resources. The catalytic and leveraging roles of international public funding remain essential for developing countries. The Panel also noted the need to improve the capacity of some recipient countries to use the financial resources that may be made available to them. It recognized that more effective use of available finance is conducive to attracting additional resources.

54. The financing needs for sustainable forest management at the global and national levels must be met mainly by the revenue generated by the forest sector itself, be it the public or private sector. Some countries, with valuable forest estates and stronger economies, have much greater potential for generating private sector and domestic public investment than others. National forest programmes and similar policy instruments (chap. I) can be an important

policy tool and serve as a means of promoting, prioritizing, and coordinating both public and private financial investments. Community financing is also an important element in enhancing the sustained productivity of forest resources. Experience suggests that despite their low income level many forest-dependent communities can mobilize substantial labour, material, and capital resources for forest development, and appropriate policy changes can enhance this potential.

55. The Panel noted that, in general, private capital flows are growing and are increasingly greater than public funding, but are distributed unevenly among developing countries. This trend is also visible in the case of private investment in forests. The Panel recognized, therefore, that it is critical for countries to take the necessary measures to introduce appropriate policies and create an enabling environment to attract such private sector investment. Policies that address long-term land tenure rights and encourage local community investment in sustainable forest management could mobilize significant financing. Investment may be encouraged by voluntary codes of conduct for sustainable forest management, stronger national regulations and enforcement, full cost internalization in the pricing of renewable resources, and various incentives for better forest management practices. Policies and regulations should be carefully evaluated before implementation to avoid negative social and environmental impacts and market distortions, which would create disincentives.

56. The Panel underscored the need to fulfil the financial commitments of Agenda 21, and especially chapter 33 of Agenda 21, with the aim of achieving the management, conservation and sustainable development of all types of forest, including the protection of representative forest ecosystems. Efforts in developing countries aimed at securing additional financial resources and technology at the domestic level need to be strengthened and should be supplemented from international sources. ODA remains a main source of external public funding, and has a principal aim of alleviating the poverty which is a main cause of deforestation. It will continue to play an important role in supporting forest related activities in developing countries especially where it is difficult to attract financing from other sources. The Panel expressed its concern that funding levels, including ODA, are insufficient and declining, and that sustainable forest management is not given sufficient priority in ODA. While there is a continuing challenge to ensure that ODA funds for the forest sector are used as efficiently as possible, this is independent from the issue of trends in international public sector financing. Forest-related projects which have global environmental benefits should also be supported through GEF programmes, under the guidance provided by the Conference of Parties of the relevant international instruments.

57. The Panel emphasized the need to examine ways to enhance international cooperation. It stressed the need for the developed countries to find durable solutions to the debt problems of low and middle income developing countries in order to provide them with the needed means for management, conservation and sustainable development of all types of forests. Other forms of innovative financing should also be explored. Market-based instruments (MBIs) such as taxes, levies, user fees, and domestic public investments could generate additional financial resources to support activities for sustainable forest management and conservation. A whole range of options relevant to specific national conditions warrants further examination. Adequately valuing forest

resources, and creating markets which reward sustainable forest management will promote the management, conservation and sustainable development of all types of forests and generate needed public resources.

58. The Panel emphasized that in-country coordination and cooperation among donors is crucial in view of the need to make best use of limited financial resources. National forest programmes provide a good basis in many countries for national and international cooperation, including setting priorities for financial assistance and technology transfer between recipient countries and donors.

Proposals for action to strengthen financial assistance

59. The Panel:

(a) Urged donor countries to increase the proportion of their ODA contribution supporting programmes for management, conservation and sustainable development of all types of forests, especially in developing countries where private investment has remained low, and also urged recipient countries to give greater priority to forests and forest-related national resources development strategies when programming the ODA available to them;

(b) Requested the relevant United Nations organizations to clarify the gap between existing resources, including ODA, available to developing countries and those necessary to achieve management, conservation and sustainable development of all types of forests;

(c) Urged bilateral and multilateral organizations to use NFPs as a framework for the support and coordination of forest related activities, including national level forest assessments;

(d) Urged countries, through appropriate channels, to support increased and improved programmes supporting forest and forest-related activities in multilateral organizations, including the multilateral development banks, whose programmes should include concessional loans;

(e) Invited UNDP and the Bretton Woods institutions, together with other relevant international organizations, to further explore innovative ways to use existing financial mechanisms more effectively and possibilities for generating additional forest-specific public and private financial resources at both the domestic and the international level.

Proposals for action to enhance private sector investment

60. The Panel:

(a) Urged all countries to attract private sector investment and favour sustainable forest management by formulating and adopting, in cooperation with the private sector and other major groups including indigenous peoples and local communities, policies, regulations and incentives including the full pricing of renewable resources and [voluntary] codes that will guide investments, concessions and sustainable forest management;

(b) Urged developing countries to adjust their policies and regulations to create a favourable environment to attract domestic and foreign private sector, as well as local community investment for sustainable forest management, environmentally sound forest-based industries, reforestation, non-wood forest product industries, and conservation and protection of forests;

(c) Urged developed countries to formulate and create incentives, including tax breaks and loan and investment guarantees, to encourage their private sector to act consistently with and invest in the sustainable management and utilization of forests in developing countries as well as in countries with economies in transition.

Proposals for action to enhance national capacity and national coordination

61. The Panel:

(a) Urged countries to reflect their national priorities on forest related issues adequately in their negotiations and agreements on international cooperation, and to establish country-driven NFPs that include priority needs and that serve as an overall framework for forest related policies and actions including coordination of financing and international cooperation, and urged donor agencies to finance national initiatives aimed at creating such programmes in developing countries;

(b) Encouraged countries in a position to do so to continue to develop and employ appropriate market-based instruments and incentives such as user fees, increased rent capture, and levies, as tools to mobilize domestic financial resources in support of sustainable forest management, as well as to reduce social costs and negative environmental impacts due to unsustainable forest and land management practices;

(c) Encouraged countries to emphasize community financing as a fundamental strategy to enhance forest productivity and the sustainable use of forest resources, and to this end to establish policy and programmatic mechanisms and instruments that facilitate local investments, in cash or kind, in forest development;

(d) Encouraged countries to decentralize the planning and implementation of development activities, wherever possible, to the district or other appropriate sub-national levels, and to give incentives to the private sector, non-governmental organizations and community based organizations at the levels selected;

(e) Encouraged all concerned national bodies, including finance ministries, the private sector, national and commercial banks, environmental and forestry funds, grass-roots lending associations, forest industries, forest owners, sectoral authorities at national and sub-national levels and external funding organizations, to be involved in planning, implementation and monitoring processes through appropriate institutional and legal frameworks;

(f) Encouraged the pooling of national resources, including funds, technologies and scientific and human resources, where appropriate and applicable, as a means of improving efficiency and effectiveness;

(g) Called upon countries to give priority to sustainable forest management in programming the ODA available to them and to formulate policies and incentives and create an enabling environment that encourages the development and use of environmentally sound technologies;

(h) Suggested that countries identify a national authority responsible for in-country coordination in the deployment of financial resources, including ODA, and in requests for external assistance, and invited countries also to select an external agency to assist Governments with in-country donor coordination.

Proposals for action to enhance international cooperation

62. The Panel:

(a) Called for enhanced coordination, collaboration and complementarity of activities among bilateral and multilateral donors and between international instruments related to forests, notably the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change;

(b) Called for the provision of a better flow, to both the policy and operational levels, of synthesized information on programme progress, policy development, best practices and lending strategies, including through the establishment of specialized databases;

(c) Urged the exploration, as a priority activity, of appropriate indicators for monitoring and evaluating the adequacy and effectiveness of programmes and projects supported by international cooperation in financial assistance and technology transfer;

(d) Encouraged countries to explore the feasibility of innovative financial packages such as voluntary partnerships for sustainable forest management and other forest-related activities based on pooled resources and supporting comprehensive national forest programmes;

(e) Called for the establishment of mandatory coordination, both in-country and at the international level, among intergovernmental organizations within the United Nations system.

Technology transfer and capacity-building and information

63. There is an unprecedented accumulation of technological capability in the world today, including for forestry. However, much of it remains largely unrecognized, underutilized and inadequately shared. Nevertheless, technological innovations are critical. The Panel emphasized that the transfer of environmentally sound technology in the forest sector, in accordance with principle 11 of the Forest Principles, is an important part of strategies for enabling countries to manage, conserve and sustainably develop their forests.

The potential of particular technologies for transfer needs to be assessed in consultation with all interested parties such as governments, non-governmental organizations, the private sector, scientists, and local communities.

64. The Panel noted that as technology mainly resides in the North, and in particular in the private domain, there is a considerable potential for North-South cooperation in technology transfer, under favourable conditions, including on concessional and preferential terms for developing countries. However, owing to similarities of forest types, institutions and culture, there is also a considerable potential for South-South cooperation in conjunction with, and as a complement to North-South cooperation.

65. The Panel noted that developed countries bear a special responsibility for facilitating the creation of conditions for the conservation and sustainable use of forest biological diversity, inter alia, through constructive approaches to the transfer and equitable sharing of technologies and financial resources to strengthen the capabilities of indigenous peoples, forest dwellers and local communities for sustainable forest management.

66. The Panel agreed that priority in technology transfer and capacity-building should be established and continuously reviewed and could include information dissemination to improve forest and land-use planning and improvement of forest yields; technology and methods that reduce environmental damages due to current forestry practices; conservation and protection; native species research, including biotechnology, for tree improvement, rehabilitation, reforestation and nursery development; technology and methods for retaining forest values, including biological diversity; incorporation of indigenous knowledge in forest management, utilization, rehabilitation and regeneration; new and renewable sources of energy, in particular fuelwood and its appropriate substitutes; environmentally sound forest harvesting technologies; enhancement of technologies regarding wood processing and the development of new non-wood and wood forest products, to promote techniques and design in order to add more aggregate value for forest products; and development and implementation of national forest strategies.

67. The Panel emphasized the need to review and improve information systems. Attention should be given to worldwide access to information systems that would encourage effective implementation of national forest programmes, increased private sector investment, efficient development and transfer of appropriate technologies, and improved cooperation. Internet-based information systems should allow easy access and information-sharing among multilateral agencies, countries' institutions, non-governmental organizations and other interested parties.

Proposals for action to enhance technology transfer and capacity-building

68. The Panel:

(a) Encouraged countries to assess and explicitly identify their national technological requirements in order to achieve the sustainable management, conservation and sustainable development of their forests. The assessment and identification of specific technology needs should be consistent with recognized

priorities within national forest programmes, and other national policy frameworks;

(b) Called upon countries to formulate policies and incentives that encourage all concerned to develop and use environmentally sound technologies;

(c) Called for the promotion of North-South, South-South as well as trilateral North-South-South cooperation in forest related technology transfer through public and private sector investment, joint ventures, exchange of information and greater networking among forest related institutions, taking due note of related work being conducted in other international forums, notably the Conference of the Parties to the Convention on Biological Diversity;

(d) Called for greater emphasis on national capacity-building in the development of national forest programmes and in international cooperation programmes;

(e) Urged donor countries and multilateral organizations to support capacity-building in data-gathering as part of national forest programmes and forest resource assessments and to strengthen national institutions for forest assessment.

Proposals for action to improve information systems

69. The Panel:

(a) Invited relevant multilateral forest agencies and international organizations to review and initiate the development of improved information systems that support activities for the management, conservation and sustainable development of all types of forests, particularly so as to encourage effective implementation of national forest programmes, the provision of new and additional financial resources, increased private sector investment, and improved cooperation, efficient development and transfer of appropriate technologies, and improved coordination and data sharing among interested parties;

(b) Urged developed countries and appropriate international organizations to establish mechanisms to assist the interpretation and dissemination of information relevant to sustainable forest management to those countries and interested parties who have difficulties in accessing internationally available information, including dissemination through electronic means.

III. SCIENTIFIC RESEARCH, FOREST ASSESSMENT AND THE DEVELOPMENT OF CRITERIA AND INDICATORS FOR SUSTAINABLE FOREST MANAGEMENT

Assessment of the multiple benefits of all types of forests

Conclusions

70. The Panel emphasized that national inventories are an important basis for effective national forest programmes. Assessment of the actual and potential conditions of all types of forests is central to sustainable forest management, and to a wide range of other considerations related to forests and forest ecosystems at the local, national, regional and global level. Inadequate recognition of the contribution of forests to national economies has in many cases led to deforestation, forest degradation and under-investment in forest management.

71. The database regarding forest types in both developed and developing countries is uneven. Much attention is still given to timber and forest cover, whereas other goods and services provided by forests such as fuelwood, the sustainable use, conservation and equitable sharing of benefits of biological diversity, soil and water protection functions, carbon sequestration and other social, cultural and economic aspects are rarely covered.

72. Forest assessments at the national level should adopt an integrated and holistic multidisciplinary approach and be user-oriented and demand-driven. Such assessment programmes should be transparent and accessible to all interested parties. Further study would be needed to define the levels of precision required and the specific needs of different users including forest managers. Assessment programmes should fully utilize the data already collected and analyses already carried out by local, national, regional and international institutions. Efforts should be made to harmonize approaches to data collection and analysis in order to enhance comparability.

73. The Panel emphasized that assessment data already in the public domain, including remote sensing information, should be disseminated effectively. The use of existing FAO data, in combination with other data sets, offers a rich potential to address urgent questions in a cost-effective manner. The Panel also recognized that data interpretation in response to user needs is necessary. Consequently, a study of uses and categories of users of forest resources and related information at the international, regional, national and local levels is required. This would be particularly important when discussing new types of information to be included in the Global Forest Resources Assessment.

74. International and national forest assessments should take full account of appropriate internationally agreed criteria and indicators for sustainable forest management. The need to include qualitative as well as quantitative information on forest goods and services was stressed. The Panel agreed on the need to include new parameters as well as the need to develop techniques to accomplish this. However, priority should be given to the provision of reliable and high-quality core data.

75. The Panel further noted that capacity-building at the national and local levels was crucial, and should involve all interested parties, including forest owners, local communities, indigenous peoples, and other major groups. Forest assessments should be multidisciplinary and involve data collection and analysis by local, national and, possibly, regional as well as international institutions. Enhanced national capacity was considered essential for high-quality national inputs to the global Forest Resources Assessment (FRA) 2000 being organized by FAO.

76. The Panel expressed strong support for FRA 2000 and the arrangements being made following the recommendations of the FAO Expert Consultation on Global Forest Assessment in Finland in June 1996 (Kotka III) and urged FAO in consultation with countries and interested organizations, to prepare a strategic plan for assessing global forest resources and a detailed plan for the implementation of Global FRA 2000, including detailed cost and funding options and target dates. The Panel noted the importance of ecofloristic zone and vegetation maps as tools for the FRA 2000 process, together with appropriate qualitative parameters and criteria and indicators defined through the Helsinki and Montreal Processes, the Dry Zone of Africa initiative, the Tarapoto Proposal and the ITTO Guidelines.

77. The Panel took note of the recommendation of Kotka III to maintain the current 10-year interval between global forest resources assessments. However, the possibility of rolling assessments by region could also be considered together with the possibility of updating of data at regular intervals, taking into account the financial and resource implications for FAO, as well as for developing and developed countries of meeting such requirements. FRA 2000 should be a partnership exercise facilitated by FAO but also involving United Nations organizations, national institutions and other interested parties, including relevant major groups. Cooperation at the national level should involve all interested parties, both within and outside the forest sector.

78. While recognizing the value of remote sensing techniques and geographical information systems for forest assessments, the Panel noted the need for ground confirmation of some parameters. Assessments impose a significant financial and technical burden on developing countries, and should therefore be carried out in the most cost-effective manner and be assisted by developed countries and international organizations. Coordination was needed between forest and other related information systems, and demanded both North-South and South-South cooperation.

79. Resources available for FRA 2000 in FAO's regular budget and at the national level are severely limited. The Panel stressed the urgency of identifying existing or additional financial resources which would ensure an effective process. Consideration should be given to establishing methods by which users would provide resources for data collection.

Proposals for action

80. The Panel:

(a) Encouraged Governments and FAO to integrate national level criteria and indicators for sustainable forest management in forest assessments where appropriate. This should be done in a way which is cost-effective and scientifically sound, while recognizing differences in national economies and cultures. While some indicators are quantitative, those for some other important goods, services and cultural values are qualitative but should still be included;

(b) Urged Governments, universities and relevant organizations and major groups to strengthen research on forest inventory and monitoring techniques with a view to expanding the scope and improving the quality of forest assessments in a cost-effective manner;

(c) Requested FAO, in consultation with Governments and relevant organizations, to prepare and distribute a detailed plan for the implementation of FRA 2000. This should provide for the inclusion of a broad range of forest values, including non-timber values, and include detailed cost and funding options associated with potential new parameters, actions, targets and responsibilities for carrying out the assessment in accordance with the recommendations of the Kotka III meeting and with due regard to the requirements arising from internationally agreed criteria and indicators for sustainable forest management;

(d) Requested FAO to take the lead in the formulation of an internationally acceptable and agreed set of definitions of key terms used in the assessment of all types of forests and their resources;

(e) Urged FAO, in partnership with other international organizations, the Intersecretariat Working Group on Forest Statistics, national institutions and NGOs, to address the need for better coordination and avoidance of overlap between forest and other related information systems and to update and prioritize data requirements to avoid collection of non-priority information.

Forest research

Conclusions

81. The Panel recognized the need to strengthen research, which was relevant to all the programme elements of its programme of work. There was need for a more comprehensive and focused approach, including support to regional research networks. Enhanced international efforts for more focused and effective funding and coordination of forest-related research and development were also required.

82. The Panel also took note of the recommendations on priorities for scientific research on biological diversity and forests made by the second meeting of the Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biological Diversity. The Panel also recognized the

important role of the Committee on Science and Technology of the Convention to Combat Desertification in addressing many of the forest related scientific issues and research needs as regards arid zones.

83. The Panel recognized that institutional needs include the strengthening of existing national research institutions; subregional and regional networks; joint research ventures; approaches to enhancing and strengthening of existing international, regional, subregional and national forest research institutions' participation in an international network dedicated to conservation and sustainable development, management and utilization of forests and forest policy research; and the creation of appropriate mechanisms that enable research findings to reach policy and field levels more effectively and to support concrete action.

84. The Panel recognized the importance in developing and identifying research priorities at all levels: national, with the involvement of local communities and other interested parties; regional; and international. The Panel noted that some of the research priorities relevant to further the understanding and implementation of chapter 11 of Agenda 21 and the Forest Principles and that are in need of comprehensive intergovernmental examination include the development of criteria and indicators for sustainable forest management, including their testing at field level in pilot studies; integrated site-specific socio-economic and biophysical studies to explore the relationship between human development and forests; periodic forest assessment; valuation of forests and forest resources; the use of forest valuation in national resource accounts; community participation, including the adoption of participatory rural appraisal and other participatory techniques to determine research and technology development agendas; TFRK; forest conservation, including human impact on protected forest areas; consideration of the long-term impacts of pervasive external stresses such as climate change, ozone depletion and air pollution on forest health, productivity and biodiversity; examination of trends in supply of, and demand for, forest products; forest policy at national, regional and global levels; and environmentally sound technologies for forest-based industries, including cost-effective processing techniques.

Proposals for action

85. The Panel:

(a) Requested the Centre for International Forestry Research (CIFOR), the International Centre for Research in Agroforestry (ICRAF), the International Union of Forestry Research Organizations (IUFRO), FAO, UNESCO, ITTO and the International Boreal Forest Research Association (IBFRA), in consultation with a group of internationally recognized experts and in conjunction with national, regional, intergovernmental and non-governmental bodies, to propose measures to focus and improve coordination of forest research and development, possibly through the development of a strategic framework for a global forest research network, making full use of existing organizations and providing for improvement to the system of commissioning, providing and implementing research on priority areas. In this context, mechanisms should be proposed for enhancing the flow of information and research results to those engaged in policy formulation and implementation;

(b) Called on the Subsidiary Body on Scientific, Technical and Technological Advice of the Convention on Biological Diversity and the Committee on Science and Technology of the Convention to Combat Desertification to ensure that research and analysis undertaken by these Conventions addresses gaps in existing knowledge identified by the Panel as effectively as possible.

Methodologies for the proper valuation of the multiple benefits of forests

Conclusions

86. The Panel stressed that forests provide a wide range of benefits, not all of which are easy to quantify. The costs associated with deforestation, forest degradation and changes in forest quality, in terms of losses of biological diversity, impaired biological functions, and reduced social values are not adequately covered by present methodologies. However, this shortcoming is due as much to the inability to assess the nature and significance of biophysical ecological and social impacts resulting from forest loss as to uncertainty about how to assess their costs.

87. The Panel recognized the importance of the services provided by forests, including those relating to global biological diversity and climate regulation, and the potential for developing mechanisms to translate these values into monetary terms to encourage forest owners, forest dwellers, indigenous populations and local communities to conserve forests and manage them sustainably. Further discussion on these issues should take place in the context of the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change. The Panel took note of the input received from the Conference of the Parties to the Convention on Biological Diversity with respect to the need to develop methodologies for valuing forest biodiversity.

88. Undervaluation of forest goods and services and of other forest attributes, including non-market benefits, contributes to unsustainable forest management. The Panel recognized the difference between value and price, and noted that market mechanisms were not always appropriate or available to give monetary expression to key forest values, leading to the misconception that sustainable forest management is expensive and not cost-effective.

89. The Panel emphasized that the economic value of forests depends on the characteristics of particular forest areas and their locational relationships with people and markets. These characteristics vary both spatially and in time and, as a result, forest valuation estimates are usually site- and time-specific. Nevertheless, there is considerable benefit in different countries sharing experiences with the application of particular valuation techniques and instruments designed to capture a higher share of benefits for forest owners and forest dwelling people.

90. A variety of methodologies has been developed to aid in the valuation of forest benefits that were previously considered intangible and not amenable to measurement. They can be used in all types of forests to improve the

description of a wide range of social, cultural and environmental benefits, including those associated with hydrological functions, soil conservation, biological diversity and amenity. While these methodologies have many limitations, they could help improve decision-making by more clearly defining the costs and benefits associated with different patterns of forest use, and by indicating the scope for applying various measures to internalize environmental and social costs. The results of this valuation, when applied as a neutral tool, are an important potential source of information to all interested parties, and for increasing public awareness, particularly about currently non-marketable forest goods and services.

91. Although the Panel recognized the potential usefulness of forest valuation methodologies, it felt that their complexity and the costs involved may limit their widespread application. The Panel emphasized that innovative and simple scientific valuation methods were needed especially those related to criteria and indicators and national forest programmes. Expensive valuation exercises should not be performed at the expense of more pressing basic needs, such as the development and application of reliable data systems, and the development of strategies and mechanisms to achieve sustainable forest management. Economic valuation is only one of many considerations for decision-making on forests, and cannot become a substitute for the process of political decision, which includes consideration of wide-ranging environmental, socio-economic, ethical, cultural and religious concerns.

92. New forest valuation methodologies should take into account the following criteria: neutrality and scientific validity, practical applicability, simplicity and clarity, multidisciplinarity, cost-effectiveness, orientation towards currently non-marketable goods and difficult to quantify services and sensitivity to the values of forest dwellers, indigenous people, forest owners and local communities.

93. The Panel noted the need for international cooperation in the development of methodologies for the valuation of forest goods and services and their inclusion in national accounts. This could include training for staff as well as decision makers and work on ways and means to promote public awareness. The need to exchange experience and to establish pilot studies and schemes was emphasized.

94. The Panel expressed support for national forest resource accounting as a means of providing strategic information for forest policy and management at the national and sub-national level and creating awareness of the value of forest goods and services.

Proposals for action

95. The Panel:

(a) Encouraged countries and international agencies to make use of available methodologies to provide improved estimates of the value of all forest goods and services and allow for more informed decision-making about the implications of alternative proposals for forest programmes and land-use plans;

(b) Encouraged countries to develop and apply methodologies and mechanisms appropriate to their legal and economic circumstances, such as the setting of area fees, royalties and taxation to ensure that an appropriate proportion of the economic rent is available after deduction of the costs of production and an appropriate level of profit. The net economic rent could be used to improve the sustainable management of forests in a step-by-step process involving training, capacity-building, industrial reconversion, and to provide benefits to people living in or dependent on forests;

(c) Requested that a matrix be prepared matching the available forest valuation methods and data-sets required for the evaluation of goods and services, in particular those that are not traded in the market place, at the local, national, regional and international levels;

(d) Encouraged countries and relevant international agencies and institutions to promote research to further develop forest valuation methodologies, in particular those related to degradation, deforestation, criteria and indicators. These should fully recognize the ecological, social, cultural and spiritual values of forests, and should support collective decision-making that involves interested parties, such as indigenous peoples, forest dwellers, forest owners and local communities.

Criteria and indicators for sustainable forest management

Conclusions

96. The Panel noted the widespread international interest in and support for the development and implementation of criteria and indicators for sustainable forest management at the national level. It emphasized the dynamic nature of this process, and that the present momentum of action must be sustained.

97. The Panel recognized that criteria and indicators provide a conceptual framework for policy formulation and should be considered as useful tools for assessing trends in forest conditions, for reporting on the state of forests and for achieving sustainable forest management, especially at the forest management unit level. Criteria define the essential elements of sustainable forest management, while indicators provide a basis for assessing progress towards it. Criteria and indicators can therefore play an important role in defining the goals of national forest programmes and policies and evaluating the effectiveness with which they are implemented. Because they reflect components of sustainable forest management, they collectively contribute to its development as a concept.

98. There is need for a broad spectrum of quantitative, qualitative and descriptive indicators covering social, cultural, economic, ecological, institutional, legal and policy elements, including land tenure. Aspects of forests and woodlands that are essential in meeting the subsistence needs of indigenous people, forest dwellers and other local communities including forest owners require special attention in some countries. Not all essential attributes of forests can be defined in quantitative terms, but this does not diminish the importance of qualitative characterizations. In many national,

regional and international initiatives, both quantitative, qualitative and descriptive indicators have already been established.

99. While recognizing that national-level criteria and indicators may play an important role in clarifying issues related to forest certification and the labelling of forest products, the Panel emphasized that the development of criteria and indicators is primarily intended for promoting and monitoring sustainable forest management, and not for imposing certification schemes. Criteria and indicators are not performance standards for certifying management at the forest management unit level and should not be made a basis for restriction of trade. The Panel also emphasized that criteria and indicators for sustainable forest management should not be used as grounds for conditionality in the provision of ODA.

100. The Panel stressed the need for further efforts to reach internationally acceptable and agreed definitions of key concepts and terms relating to criteria and indicators for sustainable forest management, and methodologies for data collection. These terminologies and approaches must be compatible with those used in other related fields, such as inventory, assessment and valuation, environmental assessment, NFPs, land-use plans and trade-related forest issues.

101. The Panel stressed that criteria and indicators should be used at the national and at the forest management unit or equivalent level. It welcomed the efforts made to clarify the links between the criteria and indicators appropriate at the national level and those applicable to the sub-national and forest management unit level, and emphasized that these must be compatible. It recognized, however, that these links will vary from country to country and may require further examination. Criteria and indicators for use at the national and sub-national levels should be formulated through a transparent process involving all interested parties, including forest dwellers, indigenous people and local communities, as well as forest owners and major groups, where applicable. Criteria and indicators for application at the national level should be practical, scientifically based and cost-effective and reflect, inter alia, economic, social and ecological circumstances.

102. The Panel noted that a number of countries are participating actively in international and regional initiatives aimed at defining and implementing national-level criteria and indicators for sustainable forest management. This cooperation has enabled countries to benefit from the experience of others and at the same time to bring new dimensions and ideas into the international processes. While recognizing that the countries currently involved are at different stages in the process, the Panel stressed the need for further progress towards consensus. The Panel also urged continuing efforts to involve those countries and regions which are not yet participating in these initiatives. The Panel supported the promotion of ways and means to maximize the exchange of information, experience and technical knowledge at the global level, and in particular between the continuing regional and international initiatives.

103. The Panel placed particular emphasis on the need to involve regions and subregions with distinctive ecological and geographical characteristics, and countries with low forest cover. It also agreed that the development of

appropriate criteria and indicators for application at regional levels, in particular for forests in similar ecological zones, should be considered. The Panel also emphasized the need for efforts to enhance comparability, compatibility and eventual convergence between various international and regional processes on the development and implementation of criteria and indicators, and stressed the importance of mutual recognition of ongoing and planned initiatives.

104. The Panel [recognized]/[had divergent views on] the merits of a core set of criteria and indicators for use at the global level, while noting that there needed to be consistency in the methodology employed in global forest assessments. [Nonetheless, it was convinced of the value of a set of criteria and indicators wide enough to be used at the global level, rather than a reduced core set that might prevent the mutual recognition of regional and national initiatives, the exchange of information, and the further elaboration on the issues of best forest practices and voluntary codes.]

Proposals for action

105. The Panel:

(a) Encouraged countries to proceed to prepare national-level criteria and indicators for sustainable forest management and, where appropriate, to implement them even though they may still be imperfect and incomplete, while recognizing that further scientific and technical examination, including field testing, will itself provide valuable experience and assist in further development;

(b) Urged Governments to promote the use of regionally and nationally agreed criteria and indicators and to consider their use in promoting best available forest practices and to facilitate certifying forest management; to ensure that criteria and indicators are formulated and implemented on a cross-sectoral basis; to include them in national forest programmes, land-use plans or other relevant policy frameworks and in connection with voluntary codes as appropriate; to establish clear links between criteria and indicators employed at the national level and at the sub-national or management unit level; and to ensure that they are compatible with criteria and indicators developed at the international level;

(c) Encouraged countries not yet participating in any of the ongoing international and regional initiatives on criteria and indicators to become involved as soon as possible, thereby gaining benefit from the experience of the existing processes as well as contributing new insights; and urged donor countries, and multilateral and international organizations to provide technical and financial assistance to developing countries and economies in transition to enable them to be involved and to participate in the further development, field testing and implementation of criteria and indicators at the national, sub-national and forest management unit levels;

(d) Requested FAO, other international agencies and participants in international and regional initiatives to explore possibilities for international agreement on concepts, essential terms and definitions concerned

with criteria and indicators for sustainable forest management; on indicators for forests in similar ecological zones; on the mutual recognition of and convergence between sets of criteria and indicators for application at the national level defined in different international and regional initiatives; and on transparent methods for measurement of indicators and for the collection, assembly, storage and dissemination of data;

(e) Recommended that FAO and participants in regional and international initiatives draw on commonalities between criteria and indicators developed in the latter and on the Forest Principles [to develop global reference criteria which would represent the common denominator of all regional and international sets of criteria], and recommended that criteria and indicators be used by FAO and other relevant organizations in order to improve consistency on reporting on forest assessment and sustainable forest management;

(f) Requested that the Conference of the Parties to the Convention on Biological Diversity take note of existing criteria and indicators frameworks with a view to ensuring that the work done by the Convention on Biological Diversity on developing and implementing biodiversity indicators would be consistent with and complementary to them.

IV. TRADE AND ENVIRONMENT IN RELATION TO FOREST PRODUCTS AND SERVICES

Conclusions

106. The Panel agreed that trade in forest products and services, which are derived from renewable and environmentally friendly resources, should be promoted as an important means of contributing to sustainable development. It recognized the importance of promoting sustainable forest management through mutually supportive trade and environmental policies, and ensuring that trade policies do not have an adverse impact on the management, conservation and sustainable development of forests. However, it also recognized the wide range and complexity of the issues associated with this topic. A continuing process of consensus-building is needed, including the exploration of the possible need for an agreement on trade in forest products and voluntary codes of conduct to facilitate and improve trade in forest products in specific areas. In view of the complexity of these issues, better coordination of work carried out by relevant international agencies is essential.

107. The Panel emphasized that the issues of trade and environment relating to forest products and services should be addressed in a holistic manner, taking into account chapter 11 of Agenda 21 and the Forest Principles. It recognized, however, that there was inadequate information on both domestic and international trade in non-wood products and forest services. Further studies and data gathering are needed to overcome these gaps in future. The analyses and measures taken must accord with World Trade Organization rules. [In special circumstances, trade measures may be necessary to achieve environmental objectives, but these should be instituted only through established national and international legal mechanisms and as a last resort when all other options have been exhausted.]

108. The Panel's conclusions regarding market access, the relative competitiveness of forest products, the promotion of lesser-used species, certification and labelling, full-cost internalization and market transparency are noted in the following paragraphs.

109. The Uruguay Round of multilateral trade negotiations made significant progress in improving market access for forest products, especially in terms of reducing tariffs for all types of forest products. Yet barriers to international trade in forest products, particularly non-tariff barriers, could still impede access of forest products to the international market. Trade-related measures should be consistent with the Forest Principles, and multilaterally agreed trade laws and practices, and be effective in advancing their stated purpose.

110. Forest products obtained from sustainably managed forests may be considered to be environmentally friendly. Competition between different products from different regions, and between wood and non-wood alternatives is inevitable. It need not constrain national or global efforts to achieve sustainable forest management, but could have serious implications for markets for specific forest products in the future. Further economic and market studies, therefore, should be carried out to determine how best to use markets and economic instruments to promote sustainable forest management.

111. For the majority of developing countries, exports of processed products represent a small proportion of their total roundwood production. Additional efforts, therefore, should be geared towards promoting more environmentally sound downstream processing industries and exports of processed products, consistent with sustainable forest management, in order to increase their contribution to sustainable economic development and to increase export earnings.

112. The Panel noted that producer countries and international institutions have undertaken many efforts and initiatives to promote lesser used species in the international market. Progress is still very limited, but the efforts should continue and be extended to temperate and boreal species.

113. International attention to the issues of certification of forest management and labelling of forest products should be put into perspective. To date, only a small proportion of the global trade in forest products and a small area of the world's forests are influenced by these practices. Because of inadequate information and relatively few real world experiences, it is still too early to assess objectively their full potential in promoting sustainable forest management. More studies and information are required to clarify various uncertainties including: the impacts of certification on forest enterprises and markets; the competitiveness of forest products; the economic and non-economic costs and benefits; the demand for certified products; [the feasibility of country certification]; the use of criteria and indicators; the governance and credibility of certification schemes in the context of consistency with international agreements; and the role of Government as a regulator and in some countries also as resource owner.

114. The Panel recognized that voluntary certification and labelling schemes are among many potentially useful tools that can be employed to promote the sustainable management of forests. Certification is primarily related to the implementation of sustainable forest management, while labelling is applied to products and is primarily a means for marketing. In view of potential proliferation of schemes, there is ongoing debate about the need for common understanding, equivalent or comparable standards and mutual recognition.

115. The Panel accepted that Governments have a critical role in promoting effective sustainable forest management systems. However, because certification has thus far been developed as a voluntary private initiative, different views expressed on the roles of Governments and intergovernmental institutions in the development or regulation of certification systems require further clarification. In considering possible roles for governments, bearing in mind the fact that certification is a market driven process, distinctions should be made between the roles of Governments as regulators, as promoters of public policy and, in some countries, as forest owners. [The Panel did not endorse the concept of country certification and emphasized that voluntary certification should apply at the forest management unit level.] [The role of Governments should be recognized, however, in ensuring transparency, full participation of interested parties, non-discrimination, and open access to certification schemes.] [Certification should observe sovereignty, and be transparent and rational.]

116. [The Panel recognized that as certification and labelling programmes develop, some eco-labelling programmes are likely to use certification as one of the factors in granting an eco-label for particular forest products.] International efforts should focus on ensuring that existing and new certification and labelling schemes are open and avoid arbitrary or unjustified discrimination in respect of types of forests or forest products, forest owners, managers and operators, are not used as a form of disguised protectionism, and are not in conflict with World Trade Organization rules.

117. Full-cost internalization may contribute significantly to sustainable forest management in the long term. Without it, socioeconomic and environmental costs may not be fully reflected in and addressed by the market, with the result that unsustainable practices appear more attractive than sustainable forest management. Only limited consensus exists on concepts, definitions, measurements, techniques and data requirements to introduce environmental costs into pricing mechanisms. Exchange of information on various research findings and experiences in relation to costs and policy mechanisms are encouraged to facilitate discussion and policy development.

118. Greater market transparency has the potential to promote the mutually supportive roles of trade and environment in the forest sector. Improved market transparency would also help to address issues such as illegal international trade in forest products, transfer pricing and market distortions. Despite some ongoing efforts by relevant agencies, there has been little progress in improving market transparency for trade in forest products, and the Panel agreed that further efforts should be encouraged.

Proposals for action on market access

119. The Panel:

(a) Urged countries and relevant international organizations to study the expected and actual environmental and social effects of trade measures affecting forest products;

(b) Requested each member country of the World Trade Organization to undertake measures for improving market access for forest products, goods and services, including further reduction of tariff and non-tariff barriers to trade, to ensure that trade in sustainably produced forest products and environment are mutually supportive, and to avoid conflict between measures which affect trade in forest products and the Organization's rules;

(c) Urged countries to explore the possible need for voluntary codes of conduct for forest owners, forest developers, and international investors in forestry aimed at improving trade in forest products, and to ensure that external trade policies are not at the expense of community rights over State forest lands and products;

(d) Recommended that Governments and appropriate international organizations explore the possible need for an agreement on trade in forest products from all types of forests;

(e) Urged countries to remove all unilateral bans and boycotts inconsistent with the rules of the international trade system, including those imposed by local governments.

Proposals for action on the relative competitiveness of forest products

120. The Panel:

(a) Called upon relevant agencies to support efforts to gather more information and conduct more independent market and economic studies of potential competition between different forest products, products from different regions of origin, and wood and non-wood substitutes, analysing the costs and benefits including any substitution and the overall impact on sustainable forest management of all types of forests;

(b) Urged developed countries and relevant international organizations to support efforts by developing countries, within the context of wider policies and programmes for sustainable forest management to increase their productivity and efficiency in downstream processing activities and to promote community-based processing and marketing of wood and non-timber forest products.

Proposals for action on lesser used species

121. The Panel:

(a) Called upon relevant agencies to intensify efforts to promote sustainably produced forest products of lesser used species from all types of forests, in the international market;

(b) Urged producer countries to implement policies which are compatible and consistent with sustainable forest management for the exploitation of lesser used species;

(c) Urged international agencies and research institutions to support national and community level efforts to develop technologies, including traditional forest related knowledge, to increase utilization of lesser used species.

Proposals for action on certification and labelling

122. The Panel:

(a) Urged countries and international organizations, including the World Trade Organization, to recognize the potential positive relationship between sustainable forest management, trade, and certification and labelling schemes, to ensure that such schemes are not used as a form of disguised protectionism, and to ensure that they do not conflict with international trade rules, including the WTO Agreement on Technical Barriers to Trade;

(b) Urged member countries of the World Trade Organization to highlight the principal concepts of the Agreement on Technical Barriers to Trade that may be relevant to proposals for certification and labelling and to support the application to certification schemes of the principles of:

(i) Open access and non-discrimination in respect of all types of forests, forest owners, managers and operators' credibility;

(ii) Non-deceptiveness;

(iii) Cost-effectiveness;

(iv) Participation that seeks to involve all interested parties, including local communities;

(v) Practicability and direct relationship to sustainable forest management;

(vi) Encouragement for the acceptance of "equivalent" standards and "mutual recognition";

(c) Urged relevant international organizations to carry out further studies on various aspects of certification, including:

(i) Efficiency in promoting sustainable forest management;

(ii) The need to take account of criteria and indicator frameworks;

(iii) The potential role of governments in relation to the development, implementation, promotion and mutual recognition of voluntary certification and labelling schemes;

(iv) The special needs of the owners of small forests;

(v) The need to monitor practical experience with certification;

(vi) Accreditation and the development of consistent terminology;

(d) Urged countries to consider the work undertaken by the CIFOR project on certification schemes, which might provide tools to improve credibility, effectiveness and comparability and thus facilitate mutual recognition of criteria and indicator frameworks;

(e) Called upon countries and relevant agencies dealing with trade in forest products, including ITTO, UNCTAD and the Convention on International Trade in endangered Species of Wild Fauna and Flora, to bring the current emphasis on certification into perspective, and promote international harmonization and mutual recognition of standards among various certification and labelling schemes, in an effort to facilitate and promote trade in forest products, with the ultimate objective of sustainable forest management;

(f) Called upon relevant agencies to make arrangements for a continuous exchange of information and experience on certification and labelling schemes in appropriate forums to ensure transparency.

Proposal for action on full-cost internalization

123. The Panel:

(a) Called upon countries and relevant international agencies concerned with forestry and trade to examine mechanisms for full cost internalization and undertake market and economic analyses of their implications for forest management and development costs and for sustainable forest management. Such analyses should also examine the potential benefits of improved efficiency and sustainability at all levels of the forest industry;

(b) Drawing upon the work being carried out by countries and relevant international agencies, encouraged the sharing of information on research findings and experiences of the implementation of full cost internalization and its application to sustainable forest management, and relevant policy mechanisms.

Proposal for action on market transparency

124. The Panel:

(a) Called upon relevant international agencies and national institutions to expand their work on market transparency for trade in forest products and to include the possible development of a global database;

(b) Called for an assessment by an independent body or bodies of the nature and extent of illegal trade in forest products.

V. INTERNATIONAL ORGANIZATIONS AND MULTILATERAL INSTITUTIONS AND INSTRUMENTS, INCLUDING APPROPRIATE LEGAL MECHANISMS

International organizations and multilateral institutions and instruments

125. The Panel agreed that forest-related international, regional and bilateral agencies and organizations, existing legal instruments, financial and trade institutions and treaty bodies should mobilize their comparative strengths and advantages in implementing the proposals for action in the Panel's report and should further promote policy dialogue, consensus-building and cooperation.

126. The Panel recognized that numerous important activities and programmes related to forests are being undertaken by international organizations, multilateral and regional institutions, conventions and other multilateral environmental agreements and by groups of countries. It commended the work of the informal high-level Inter-Agency Task Force on Forests (ITFF) established to support the Panel as an example of effective inter-institutional collaboration.

127. The Panel recognized that since the United Nations Conference on Environment and Development it has been increasingly appreciated that forest policy must take account of the multiple benefits of forests and that these issues need to be addressed through a holistic and integrated approach. There is, however, a significant potential for further enhancement of the existing international institutional structure to support and promote the goal of conservation, management and sustainable development of all types of forests. Better coordination and collaboration among organizations, institutions and instruments as well as clarifying, focusing or redefining their forest-related mandates, could promote greater complementarity and coherence of action, including at the level of their governing bodies. This, in turn, will help minimize overlap and duplication and provide opportunities to bridge gaps, focus on jointly agreed priorities and accommodate emerging needs. Activities should be made more transparent, effective and flexible, and should provide for effective participation of and collaboration with all interested parties and major groups.

128. The Panel noted the need for enhanced international efforts in a number of interlinked forest related areas, including effective governance of international institutions, organizations and instruments dealing with forest issues; improved mechanisms for focusing and coordinating efforts and monitoring

the implementation of activities by agencies and instruments on international forest-related issues; improved participation of major groups in forest fora and processes to promote sustainable forest management; strategic data collection and capability analysis; projects to strengthen capacity-building, technology transfer and exchange, and human resource development, in particular at the national and field levels; and more focused and effective funding for, and coordination of research and development on priorities for sustainable forest management.

Proposals for action to clarify the roles of international organizations

129. The Panel called for clarification of the mandates and tasks of United Nations agencies on forest related issues and a strengthening of inter-agency cooperation to fill gaps in relation to needs and new functions already recognized.

Proposals for action to enhance cooperation and remove gaps and duplication

130. The Panel requested international institutions to support sub-national, national, subregional, regional and international action for the conservation, management and sustainable development of all types of forests; consensus-building on approaches, and improving the conditions for capacity-building and financing the conservation, management and sustainable development of all types of forests. International institutions should also support efforts to strengthen the links between research, policy formulation and implementation, as well as the links between national programmes and strategies and the multilateral system.

131. The Panel:

(a) Called on countries to support the work of forest-related international organizations, agencies and instruments on forest related issues, to improve the integration and coordination of their efforts, and to focus their activities more directly on the needs and challenges faced by countries in the management, conservation and sustainable development of all types of forests;

(b) Called upon countries and international organizations to promote inter-agency and intergovernmental consultation on all matters relevant to the management, conservation and sustainable development of all types of forests, including national forest plans or programmes;

(c) Called upon countries to establish a high-level international policy forum for dialogue on forests;

(d) Called upon governing bodies of relevant international and regional institutions and instruments to accelerate incorporation of UNCED decisions on forest related issues in their work programme, with particular attention to those which address cross-sectoral aspects, and to realign their focus on these priorities;

(e) Requested FAO, ITTO, UNEP, UNDP, UNCTAD, the World Conservation and Monitoring Centre (WCMC) and other relevant agencies to coordinate and enhance

strategic data sets and analysis systems, and facilitate the timely dissemination of user friendly data to all interested parties.

Contribution to consensus-building towards the further implementation of the forest principles, including appropriate legal instruments and mechanisms covering all types of forests (to be covered by a separate report of the Secretary-General to the fourth session of the Panel).